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Indian Standard
SPECIFICATION FOR CONNECTING RODS FOR SEWING MACHINES FOR HOUSEHOLD PURPOSES

UDC 687·053-232

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MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 1

[redacted] [redacted] *January* 1967
Revised Price Revised Price [redacted] r 2

AMENDMENT NO. 1 FEBRUARY 1981

TO

IS:3816-1966 SPECIFICATION FOR CONNECTING RODS FOR SEWING MACHINES FOR HOUSEHOLD PURPOSES

Alterations

(*Page 4, clause 4.1*) - Substitute the following for the existing clause:

'4.1 The large end and the small end of the connecting rods forged from steel shall be hardened to a depth of 0.5 mm and 0.3 mm respectively to attain a hardness of minimum 550 *HV*5 (*see* IS:1501-1959[§]).'

(*Page 4, clause 6.2*) - Substitute '0.007 mm' *for* '0.005 mm'.

(*Page 6, clause 8.1, line 2*) - Substitute 'trade-mark, if required' *for* 'trade-mark'.

(*Page 7, clause 9.1*) - Substitute the following for the existing clause:

'9.1 Each connecting rod shall be given a suitable anti-rust coating or wrapped in vapour phase inhibitor paper (commonly known as VPI Paper). The wrapped connecting rods shall be securely packed in accordance with the best prevalent trade practice. Each package shall bear the manufacturer's name or trade-mark, the type and description of contents.'

(*Page 7, clause 9.1.1, line 1*) - Substitute 'package' *for* 'carton'.

Addenda

(*Page 4, clause 3.1*) - Add the following new matter at the end of the clause:

'or steel conforming to IS:226-1975‖'.

(*Page 4, foot-note with* '§' *mark*) - Add the following new foot-note after '§' mark:

'‖Specification for structural steel standard quality (*fifth revision*).'

(EDC 34)

Reprography Unit, ISI, New Delhi, India

Indian Standard

SPECIFICATION FOR CONNECTING RODS FOR SEWING MACHINES FOR HOUSEHOLD PURPOSES

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Indian Standard

SPECIFICATION FOR CONNECTING RODS FOR SEWING MACHINES FOR HOUSEHOLD PURPOSES

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 7 November 1966, after the draft finalized by the Sewing Machine Sectional Committee had been approved by the Mechanical Engineering Division Council.

0.2 This standard covers the requirements for connecting rods for sewing machines for household purposes and is intended to assist in regulating the quality of indigenous connecting rods for sewing machines.

0.3 This standard makes reference to non-metric screw threads as an interim measure till the changeover to metric system is effective.

0.4 In preparing this standard assistance has been derived from JIS B 9020-1960 ' Crank connecting rod for sewing machine for home use ' issued by Japanese Standards Association.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard specifies the requirements for two types of connecting rods for sewing machines for household purposes.

1.1.1 This standard does not deal with connecting rods for sewing machines for industrial and special purposes.

2. NOMENCLATURE

2.0 For the purpose of this standard the nomenclature as given in Fig. 1 shall apply.

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*Rules for rounding off numerical values (*revised*).

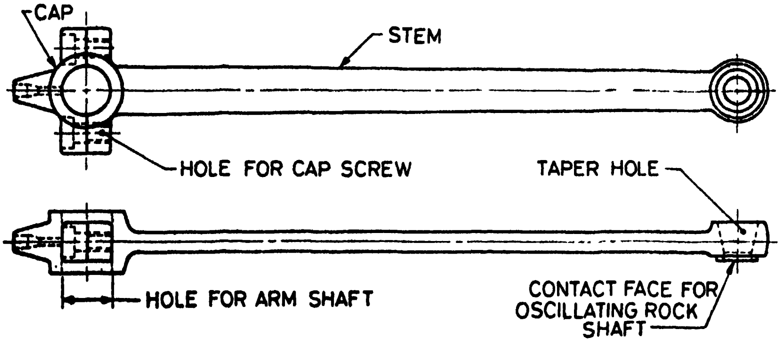

FIG. 1 NOMENCLATURE FOR CONNECTING ROD

3. MATERIAL

3.1 The connecting rods shall be manufactured from any suitable grey cast iron, such as Grade 15 of IS : 210-1962*, or forged from any suitable steel, such as C20 or C40 of Schedule II of IS : 1570-1961† or Class 2 and 3 of IS :1875-1961‡.

4. HARDNESS

4.1 The large end and the small end of the connecting rods forged from steel shall be hardened to a depth of 0·5 mm and 0·3 mm respectively to attain a hardness of 600 to 700 *HV*10 (*see* IS : 1501-1959§).

5. DIMENSIONS

5.1 The main dimensions of the connecting rods shall be as given in Table 1 and Table 2.

6. TOLERANCES

6.1 The error in parallelism of the axis of the hole for arm shaft with respect to the centre line of taper hole shall not exceed 0·3 mm per 100 mm.

6.2 The ovality and taper of the hole for arm shaft shall be within 0·005 mm.

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*Specification for grey iron castings (*revised*).

†Schedules for wrought steels for general engineering purposes.

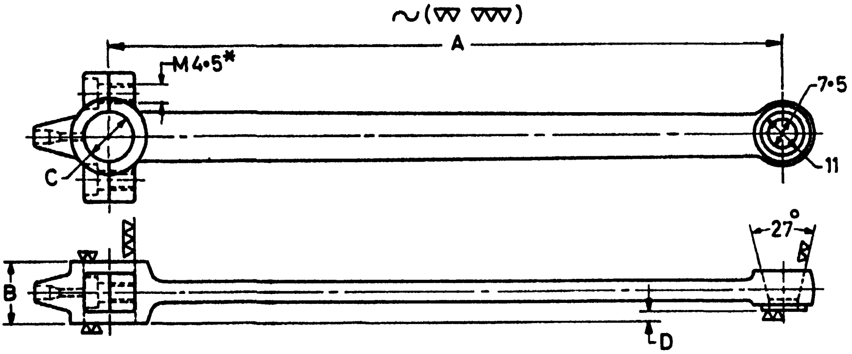
‡Specification for carbon steel bars, billets, blooms and slabs for forgings.

§Method for Vickers hardness test for steel.

TABLE 1 DIMENSIONS FOR CONNECTING ROD, TYPE A

(*Clause* 5.1)

All dimensions in millimetres.



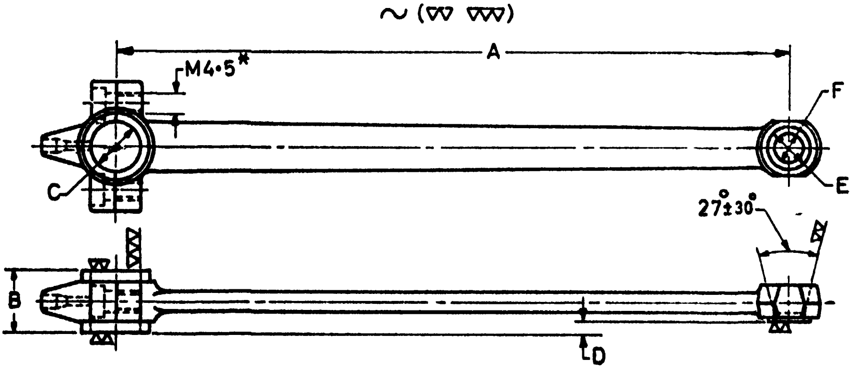
	A	*B*	*C*	*D*
Maximum	173·60	15·950	12·818	3·00
Minimum	173·45	15·907	12·800	2·87

*$\frac{11''}{64}$ × 40TPI BSW threads may also be used till changeover to metric system is effective.

TABLE 2 DIMENSIONS FOR CONNECTING ROD, TYPE B

(*Clause* 5.1)

All dimensions in millimetres.



	A	*B*	*C*	*D*	*E*	*F*
Maximum	173·02	15·928	12·720	3·43	10·80	7·595
Minimum	172·92	15·775	12·705	2·92	10·55	7·495

*2BA threads may also be used till changeover to metric system is effective.

6.3 The error in squareness of the hole for arm shaft with respect to the machined surfaces of the large end boss shall be within 0·4 mm per 100 mm.

6.4 The contact face for oscillating rock shaft shall be square with the axis of taper hole within 0·2 mm per 100 mm.

6.5 The screws for fixing the cap and stem shall be firmly fitted and the contact faces of the cap and the stem shall be on the same centre line as that of the arm shaft hole within 0·1 mm.

NOTE — This may be determined by fitting a mandrel into hole for arm shaft and the connecting rod rotated. The connecting rod shall rotate freely at the full tightening position of the cap fixing screws of the connecting rod.

6.6 Tolerances on untoleranced dimensions shall be as specified in IS : 2102-1962*.

7. WORKMANSHIP AND FINISH

7.1 The connecting rods manufactured from grey cast iron shall be dull nickel plated or given any other adequate surface treatment to prevent rust.

7.2 The connecting rods forged from steel shall be completely blackened to prevent rusting.

7.3 The fitting portions of the connecting rods shall be machined to a fine finish.

7.4 The hole for arm shaft of connecting rods forged from steel shall be precision lapped.

7.5 The connecting rods shall be well finished without any crack, flaw, blow hole, burrs, rust or inferior surface treatment and black mark on bearing surface.

7.6 Fool-proof marking for cap and stem fitting shall be provided on the connecting rod.

8. MARKING

8.1 The connecting rods shall be marked with the manufacturer's name or trade-mark.

8.1.1 The connecting rods may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act, and the Rules and Regulations made thereunder. Presence of this mark on products covered by an Indian

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*Recommendations for machining deviations for dimensions without specified tolerances.

Standard conveys the assurance that they have been produced to comply with the requirements of that standard, under a well-defined system of inspection, testing and quality control during production. This system, which is devised and supervised by ISI and operated by the producer, has the further safeguard that the products as actually marketed are continuously checked by ISI for conformity to the standard. Details of conditions, under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

9. PACKING

9.1 Each connecting rod shall be given a suitable anti-rust coating or wrapped in vapour phase inhibitor paper (commonly known as VPI paper). The wrapped connecting rods shall be securely packed in a cardboard carton in accordance with the best prevalent trade practice. Each carton shall bear the manufacturer's name or trade-mark, the type and description of contents.

9.1.1 The carton may also be marked with the ISI Certification Mark (*see* NOTE under **8.1.1**).

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The Indian Standards Institution (ISI), which started functioning in 1947, is the national standards organization for India. Its principal object is to prepare standards on national and international basis and promote their general adoption.

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